

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Mitsuo OSHIMURA et al.  
Title: HUMAN ARTIFICIAL CHROMOSOME (HAC) VECTOR  
Int'l. Appl. No.: PCT/IP2003/012734  
Int'l. Filing Date: October 3, 2003  
Examiner: Unassigned  
Art Unit: Unassigned

#2 ✓

INFORMATION DISCLOSURE STATEMENT  
UNDER 37 CFR §1.56

Commissioner for Patents  
PO Box 1450  
Alexandria, Virginia 22313-1450

Sir:

Submitted herewith on Form 1449B/PTO is a listing of documents known to Applicants in order to comply with Applicants' duty of disclosure pursuant to 37 CFR §1.56. A copy of each listed document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits, and within three (3) months of the mailing date of the foreign search report.

RELEVANCE OF EACH DOCUMENT

The documents being cited in the attached PTO/SB/08 were cited as being relevant during the prosecution of the corresponding international application. A copy of the International Search Report is attached setting forth the portion of the documents considered relevant by the examiner. A copy of the cited references listed in the Search Report is not being submitted herewith.

Applicants respectfully request that any listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form 1449B/PTO be returned in accordance with MPEP §609.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 CFR §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

Respectfully submitted,

Date

4 April 2005

By

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Substitute for form 1449B/PTO

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

Date Submitted: April 4, 2005

(use as many sheets as necessary)

Sheet 1 of 1

Complete if necessary 10/550207

Application Number	Unassigned
Filing Date	April 4, 2005
First Named Inventor	Mitsuo OSHIMURA
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	081356-0239

## U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			

## FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				

## NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	A1	International Search Report of PCT/IP03/12734.	
	A2	Y. KUROIWA et al., "Efficient modification of a human chromosome by telomere-directed truncation in high homologous recombination-proficient chicken DT40 cells", Nucleic Acids. Res. July 15, 1998, Vol. 26, No. 14, pp. 3447-3448.	
	A3	Y KUROIWA et al., "Manipulation of human minichromosomes to carry greater than megabase-sized chromosome inserts", Nat. Biotechnol., October 2000, Vol. 18, No. 10, pp. 1086-1090.	
	A4	Y. KUROIWA et al., "Cloned transchromosomal calves producing human immunoglobulin", Nat. Biotechnol. September 2002, Vol. 20, No. 9, pp. 889-894.	
	A5	W. MILLS et al., "Generation of an approximately 2.4 Mb human X centromere-based minichromosome by targeted telomere-associated chromosome fragmentation in DT40", Hum. Mol. Genet., May 1999, Vol. 8, No. 5, pp. 751-761.	
	A6	Z. LARIN et al., "Advances in human artificial chromosome technology", Trends. Genet., June 2002, Vol. 18, No. 6, pp. 313-319.	
	A7	M. IKENO et al., "Generation of human artificial chromosomes expressing naturally controlled guanosine triphosphate cyclohydrolase I gene", Genes Cells, October 2, 2002, Vol. 7, No. 10, pp. 1021-1032.	
	A8	BR GRIMES et al., "Alpha-satellite DNA and vector composition influence rates of human artificial chromosome formation", Mol. Ther. May 2002, Vol. 5, No. 6, pp. 798-805.	
	A9	Hiroshi MASUMOTO et al., "Centromere Kinetochore no Kino Kozo Hito Jinko Senshokutai o Mochiita Kino Kaiseki", Protein, Nucleic Acid and Enzyme, 1999, Vol. 44, No. 12, pp. 1665-1673.	
	A10	K. TOMIZUKA et al., "Double trans-chromosomal mice: main tenance of two individual human chromosome fragments containing Ig heavy and kappa loci and expression of fully human antibodies", Proc. Natl. Acad. Sci. USA, January 18, 2000, Vol. 97, No. 2, pp. 722-727.	
	A11	JW. YANG et al., "Human mini-chromosomes with minimal centromeres", Hum. Mol. Genet. July 22, 2000, Vol. 9, No. 12, pp. 1891-1902.	
	A12	JM. ROBL et al., "Artificial chromosome vectors and expression of complex proteins in transgenic animals", Theriogenology, January 1, 2003, Vol. 59, No. 1, pp. 107-113.	

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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